



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/518,143

08/02/2005

Jochen Dick

P04,0501

6780

26574

7590

04/29/2008

SCHIFF HARDIN, LLP
PATENT DEPARTMENT
6600 SEARS TOWER
CHICAGO, IL 60606-6473

EXAMINER

MURDOCH, CRYSTAL A

ART UNIT

PAPER NUMBER

2628

MAIL DATE

DELIVERY MODE

04/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/518,143	Applicant(s) DICK ET AL.	
	Examiner Crystal Murdoch	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

I. Priority

Applicant has filed the appropriate English translation of the foreign priority papers to overcome the previous rejection in accordance with 37 CFR 1.55. See MPEP § 201.15.

II. Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. A new ground of rejection is presented in the Office Action Below.

III. Response to Arguments

Applicants' response to the last Office Action, mailed 11 January 2008 has been entered and made of record.

As noted above, the submission of the foreign translation of the priority documents is sufficient to disqualify the references used for the previous grounds of rejection. However, a new ground of rejection is presented in the Office Action Below.

IV. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

A. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilbel et al. (Hilbel, T. et al.; "Advantages of a Cardiac DICOM Network Server/Writer for Viewing and Permanent CD-R Archiving of Cardiovascular X-Ray Angiography Images;" 2000; IEEE Computers in Cardiology; Pages 649-652, herein referred to as Hilbel.), in further view of Guido et al. (Guido et al.; "3-D Reconstruction of the Ventricular Dynamic Shape from the Density Profiles of Biplane Angiocardiographic Image Sequences;" 25-28 September 1994; Computers in Cardiology; IEEE; Pages 193-196, herein referred to as Guido.), and in further view of Vining (US Patent Number 5,782,762).

Regarding independent claim 4, Hilbel teaches a device for cross-platform and data-specific visualization of a data record, comprising:

- A computer processor (See Hilbel: Page 649, under "2. Methods," wherein the system includes two 450 MHz processors) supplied a data record containing medical image data (See Hilbel: Page 649, under "2. Methods," wherein 512 x 512 grey scale images are the image data.);
- A data memory, accessible by said processor, in which said processor causes said medical image data to be stored (See Hilbel: Page 649, under "2. Methods," DICOM network server);
- A display in communication with said processor (See Hilbel: Page 650, Figure 1, the monitor image and the remote viewing blocks.);
- Visualization software accessibly accessible by said processor for use by said processor to generate a visualization at said display of said image data stored in said data memory (See Hilbel: Page 649, right

column, lines 19-21, wherein the network server software includes viewing capabilities.);

- A data carrier generator operated by said processor that generates a data carrier with the visualization software causing said medical image data to be visualized when said data carrier is used in another computer (See Hilbel: Page 649, right column, lines 19-21, CD-R writing functionality.)).

Though Hilbel teaches using medical imaging devices including x-ray systems, echo ultrasound systems, nuclear cardiology systems, CT, MRI, to obtain cardiovascular angiography images, Hilbel does not expressly suggest that the medical images obtained from such devices includes 3D medical images. Nevertheless, Guido is cited for reconstructing 3-D volume images of the left or right ventricle from biplane angiocardiographic image sequences obtained from modalities such as ECG-gated MRI or Cine-CT (See Guido: Page 193, first paragraph under “1. Introduction”). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have used the 3-D reconstructed images, as taught by Guido, with the system of Hilbel, because Guido expressly suggests that diagnostically significant 3-D ventricular contraction patterns require volume images (See Guido: Page 193, first paragraph under “1. Introduction”).

Hilbel also does not expressly disclose:

- A user interface in communication with said processor allowing a user to enter special instructions for execution of said visualization software that alter the visualization of the 3D image data by the visualization software compared to execution of the visualization software without the special instructions; and
- Storing said special instructions united with said 3D medical image data; or
- Image data to be visualized with said altered visualization when said data carrier is used in another computer.

Vining is cited for allowing a user to control an interactive fly-through of an organ of interest (See Vining: Col. 13, Lns. 52-61). Specifically, Vining teaches a user interface in communication with a processor allowing a user to enter special visualization instructions to change the visualization of the rendered organ (See Vining: Col. 13, Lns. 54-57, wherein the interface devices are the mouse for controlling the direction and the buttons on the mouse for controlling the speed.).

Furthermore, Vining teaches recording (storing) the path of the camera coordinates for each simulated flight, which can be played back at a later time (See Vining: Col. 13, Ln. 62 – Col. 14, Ln. 7). It is noted that the recorded flight is reviewed by, for example, a gastroenterologist or surgeon (See Vining: Col. 14, Lns. 5-7). Therefore, Vining also teaches

storing the special instructions with the 3D medical image data such that an altered visualization is viewed by another.

It would have been obvious to have allowed a user to control view of the 3D medical image, as taught by Vining, to view the medical images, as taught by Hilbel and modified by Guido, because Vining suggests that interactive 3D rendering produces a "virtual reality" environment analogous to real endoscopy, which provides advantages for the person interacting with the 3D model, as well as the users who view the recorded flight, for diagnosing various conditions afflicting the organ represented by the 3D data.

Regarding claim 5, the rationale of claim 4 is incorporated herein. Vining teaches said processor operates said data carrier generator to cause at least a portion of said special instructions to be embodied in the generated data carrier in unalterable form (See Vining: Cols. 13-14, Lns. 62-7, respectively, wherein the recorded flight is stored.).

Regarding claim 6, as it depends from claim 4, Hilbel teaches said data carrier generator is a CD burner, and wherein the generated data carrier is a CD (See Hilbel: Page 649, right column, lines 19-21, wherein CD-R writing functionality must be accomplished by a CD burner.).

V. Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal Murdoch whose telephone number is (571)270-1043. The examiner can normally be reached on Mon. - Fri. 10:00am - 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Crystal Murdoch/

Examiner, Art Unit 2628

/Ulka Chauhan/

Supervisory Patent

Examiner, Art Unit 2628